Review Comments
Source Control Measure Work Plan
Swan Island Upland Facility
Operable Unit 5
Dated September 18, 2015

Submitted October 29, 2015

Following are the United States Environmental Protection Agency's (EPA) comments on the Source Control Measure Work Plan (SCMWP), Swan Island Upland Facility, Operable Unit 5 (OU5), Portland, Oregon prepared for the Port of Portland by APEX. The site is listed as ECSI #271, located at RM9E. This specific area is documented in the July 2015 Draft Final Portland Harbor FS as known riverbank contamination and immediately adjacent to the sediment management area (SMA) at this river mile. The purpose of EPA's review was to verify that the measures presented in the SCMWP prevent erosion of the riverbank soil and recontamination of the Willamette River and are implemented in a manner that does not impede future in-water sediment remedies.

General Comments:

1. The SCMWP focuses on bank stabilization. Bank stabilization measures presented should be improved by providing an anchor trench for the geotextile material and keyed riprap toe. These measures would help prevent potential erosion and failure of the erosion scarp. These measures may result in excavation of additional material that would require handling by spreading across the repair area or removal from the site.

2. A post construction survey of the stabilized bank areas should be performed so that the repaired scarps can be located for uses such as possible future bank inspections subsequent to high water events or during in-water sediment remedy design.

Specific Comments:

<u>SCMWP Text</u>

1. Section 2.3 Source Control Evaluation, Source Control Measure Evaluation, and Ecological Risk Assessment, Page 3: This section should reference the Source Control Evaluation (SCE) and Source Control Alternatives Evaluation (SCAE) for operable unit (OU) 5 dated February 13, 2015 prepared by APEX on behalf of the Port of Portland. EPA assumes the SCMWP builds on the February 13, 2015 SCE and SCAE report that recommends a source control measure for scarps in front of the Daimler Leasehold along the OU5 riverbank consisting of re-grading of erosion areas followed by surface stabilization using re-vegetation above the flood elevation and riprap armoring below the flood elevation.

2. Section 3.3.3 Riprap, Page 5: The first sentence states that Class 100 riprap, meeting the requirements of Oregon Department of Transportation (ODOT) specifications Section 00330.16, will be placed at the slope transition marking the former locations of the erosion scarps. ODOT specification Section 00330.16 allows up to 10 percent of the total material in the 1- to 0-inch size fraction. The fines fraction of the riprap should be verified clean through analytical testing. The design documents should include a soil backfill sampling and analysis plan for representative sampling of imported fill materials. For riprap, the fines fraction should be defined as material passing a No. 10 sieve (ASTM Specification E-11). The results of analytical testing on the fines fraction of the imported fill samples should be compared with the Portland Harbor Preliminary Remediation Goals (PRGs) for Remedial Action Objective (RAO) 9. The draft final version of the PRG table was released by EPA for stakeholder review in August 2015. RAO 9 pertains specifically to riverbanks with the goal of reducing migration of contaminants of concern in riverbanks to sediment and surface water such that levels are acceptable in sediment and surface water for human health and ecological exposures. Appropriate analytical methods should be used to ensure that laboratory detection limits are below each of the PRG criteria. The Port of Portland should consult with DEQ regarding their clean fill requirements for chemicals that do not have PRG values from the Portland Harbor FS.

3. Section 3.3.3 Riprap, Page 5: The last sentence states that filter fabric will be placed on the ground prior to placement of the riprap to prevent migration of the underlying soil through the riprap pore space. EPA recommends the design include placement of a high visibility marker (e.g., orange construction fencing) between the contaminated soil left in place and the overlying geotextile filter fabric to highlight areas where erosion has removed capping material. Geotextile fabric shears and tears easily in erosive areas and does not stand out very well in the event of cap failure.

<u>Appendix C – Earthwork Drawings and Specifications</u>

4. Sheet C-1- Site Plan:

    a. Call out light poles and underground electrical lines. The drawings do not call out the location of the underground electrical lines. Use of heavy equipment around overhead and underground electrical lines could result in electrical hazards causing injury to workers.

5. Sheet C-2 – Base Plan:

    b. Call out light poles and underground electrical lines (see previous comment).

    c. Note if the 20-foot gate is existing or if the Contractor would need to install.

6. Sheet C-3 – Erosion Control, Grading, and Fill Plan:

    d. The scarp construction conflicts with the location of the proposed temporary silt fence in two areas (Stations A and B and Stations G, H, and I). Move the location of the temporary silt fence towards the river so that work does not result in damage to the temporary erosion control measures.

7. Sheet C-4 - Details:

    e. Detail A – EPA recommends that the sediment fence presented in the fence detail be wire backed. This will increase the structural integrity of the sediment fence and further minimize the potential for contaminated sediment to migrate to the Willamette River.

    f. Detail B – Specify the material that will be used to backfill the 6-inch by 6-inch trench.

    g. Detail C – EPA recommends providing an anchor trench for geotextile fabric at the top of the slope. Anchor trench size should be a minimum 6 inches wide by 6 inches deep. This would secure the perimeter of the geotextile fabric.

    h. Detail C – EPA recommends providing a key at the toe of the riprap. Minimum depth of the key should be equal to the maximum stone size. A keyed toe would help in preventing potential erosion and failure of the scarp.

8. Section 01 22 00 – Unit Prices:

    i. Part 2 – Check paragraph numbering.

9. Section 01 57 19 – Environmental Construction Controls:

    j. Paragraph 1.6.A.9 – Material Safety Data Sheets are now referred to as Safety Data Sheets.

10. Section 31 20 00 – Site Clearing and Earthwork:

    k. Paragraph 2.2 – ODOT Section 00390.10 references ODOT Section 02320. This paragraph should reference ODOT Section 02320 and type of geotextile to be used.

    l. Part 2 should include material storage methods.

    m. Paragraph 3.3.D refers to Paragraph 3.4 for compaction requirements; however, Paragraph 3.4.E indicates that no compaction is required. EPA recommends providing compaction of subgrade prior to placement of geotextile material.

    n. Paragraph 3.4 should include surface preparation requirements such as providing a smooth surface free to obstructions, depressions, and debris.

    o. Section 31 20 00 does not provide requirements for installation of geotextile material. ODOT Section 02320 does not provide geotextile installation requirements. ODOT Section 00350.41 provides basic geotextile installation requirements. Please include installation requirements including, but not limited to: anchor trench, overlap of edges, and staple type and spacing. Reference recommended manufacturer installation methods.

Appendix D – Landscape Plans

11. Sheet L-3 - River Bank Planting Plan:

    a. Temporary erosion control measures shown conflict with erosion scarps (see previous comment). Temporary erosion control measures must not be impaired during repair of the erosion scarps to ensure protection of the river from contact with contaminated soil.